REMARKS

Claims 1-15 as originally filed remain in the application. Applicants respectfully request further examination in view of the following.

The Examiner rejects claims 1-15 under 35 U.S.C. § 103(a) as being unpatentable over *Takagi, et al.* (U.S. Patent No. 6,243,755, hereinafter "Takagi") in view of *Brandt, et al.* (U.S. Patent No. 6,377,993, hereinafter "Brandt"). Applicants respectfully traverse this rejection for the following reasons.

With regard to claim 1, the Office Action states that Takagi discloses: "(a) for a selected information provider, determining an update time for information stored by the selected information provider (col. 4, lines 52-63) . . . ." Applicants respectfully point out that the cited lines of Takagi disclose only:

> a computer usable medium having computer readable program code means embodied therein for causing a computer to function as a system for controlling an information transfer to a first information processing apparatus from a second information processing apparatus via a network, the computer readable program means including: first computer readable program code means for causing the computer to provide a first knowledge concerning an activity schedule of a user using the-first information processing apparatus and a second knowledge concerning a relationship between a user's activity and an attribute of information; . . . .

It is respectfully submitted that the above-quoted lines of Takagi, cited by the Examiner, do not in fact disclose "(a) for a selected information provider, determining an update time for information stored by the selected information provider;" Rather, the quoted lines of Takagi relate to knowledge of a user's activity schedule. The specification of Takagi provides examples of activity schedules and explains that an "activity schedule" is something the user creates to

describe what the user will be doing, and at what time and place he will be doing it. (*See, e.g.*, Fig. 5.) Determining what a user will be doing and when and where in accordance with an "activity schedule" bears no relation to the step recited in claim 1 of determining the time at which information stored by a selected information provider is to be updated. In Applicants' invention, various information providers store information that is known to be updated from time to time. Step (a) of the claimed method relates to determining when such updates are to occur. Nothing in the quoted lines of Takagi even relates to the *updating* of information stored by information providers. The "activity schedule" of Takagi relates to the *user's* activity, not to any activity of an "information provider," i.e., an entity that stores and provides data for a user. It particularly does not relate to any type of updating activity. The purpose of the system described in Takagi is to predict when information will be needed by a user and to retrieve it in advance; it is, in effect, a data caching system, as the Background section of Takagi indicates. Therefore, the focus is on what the user requires, not on the source of the data. Nevertheless, nothing in Takagi concerns *updated* information.

With further regard to claim 1, the Office Action states that Takagi discloses: "(b) for the selected information provider, determining a set of end users whose information could be modified by an update at the determined update time (col. 5, lines 9-20);" Applicants respectfully point out that the cited lines of Takagi disclose only:

> a computer usable medium having computer readable program code means embodied therein for causing a computer to function as a system for controlling an information transfer to a first information processing apparatus from a second information processing apparatus via a network, the computer readable program means including: first computer readable program code means for causing the computer to provide a knowledge concerning an activity schedule of a user using

> the first information processing apparatus; second computer readable program code means for causing the computer to predict a necessary information which will be required by a user using the first information processing apparatus in future and a necessary time by which the necessary information will be actually required by the user, according to the knowledge concerning an activity schedule of the user; . . . .

It is respectfully submitted that the above-quoted lines of Takagi, cited by the Examiner, do not in fact disclose "(b) for the selected information provider, determining a set of end users whose information could be modified by an update at the determined update time;" Rather, the quoted lines of Takagi relate to predicting information that will be required by a user in the future in accordance with the activity schedule discussed above. This does not have anything to do with "determining a set of end users whose information could be modified by an update. . . ." Step (b) of the claimed method relates to determining, among all of the users, which of them could benefit from updated information. Not all information providers provide information that relates to all end users. Therefore, there is a step in the method to determine or identify the users to whom the information stored by the selected information provider (i.e., the one for whom the update time was determined at step (a) of the method) relates. The quoted lines of Takagi do not describe identifying or determining *a set of users*; rather, they relate to identifying the *information* that users will need.

With further regard to claim 1, the Office Action states that Takagi discloses: "(c) generating a predicted login time for each end-user in the determined set of end users (col. 3, lines 40-46);" Applicants respectfully point out that the cited lines of Takagi disclose only:

> prediction means for predicting a necessary information which will be required by a user in future and a necessary time by which the necessary information will be actually required by the user, according to a first knowledge concerning an

> activity schedule of the user and a second knowledge concerning a relationship between a user's activity and an attribute of information; . . . .

It is respectfully submitted that the above-quoted lines of Takagi, cited by the Examiner, do not in fact disclose "(c) generating a predicted login time for each end user in the determined set of end users;" Rather, what is predicted in Takagi is the information that will be required by a user in the future and the time at which the information will be required by the user. Nothing in the above-quoted lines states or suggests that the information will be required by the user when the user logs in to or similarly accesses a computer system and that such a login time is predicted.

With further regard to claim 1, the Office Action states that Takagi discloses: "(d) sorting determined set of end users according to the predicted login time generated for each end user in the determined set (col. 3, lines 57-67);" Applicants respectfully point out that the cited lines of Takagi disclose only:

> prediction means for predicting a necessary information which will be required by a user using the first information processing apparatus in future and a necessary time by which the necessary information will be actually required by the user, according to a knowledge concerning an activity schedule of the user; and transfer control means for controlling the transfer of the necessary information from the second information processing apparatus to the first information processing apparatus via the network such that the necessary information will be transferred by the necessary time.

It is respectfully submitted that the above-quoted lines of Takagi, cited by the Examiner, do not in fact disclose "(d) sorting the determined set of end users according to the predicted login time generated for each end user in the determined set;" Nothing in the above-quoted section of Takagi relates to *sorting*. Sorting, as well-understood in the art, refers to re-ordering a

list or set. In step (d) of the claimed method, it is the set of end users that is sorted. Not only does Takagi not describe determining any such set of end users, but Takagi does not describe sorting any such set.

Applicants submit that Takagi does not disclose or suggest steps (a)-(d) recited in claim 1 and therefore cannot serve as the primary reference on which the section 103(a) rejection is based. In addition, Applicants respectfully submit that Brandt, et al. is not an adequate secondary reference. The Office Action acknowledges that Takagi does not disclose step (e) of claim 1, but cites Brandt as disclosing "[t]he harvesting process is responsible for performing data validations, filtering, data translations, data grouping, data routing, and data logging functions." (col. 19, lines 32-35). Applicants submit that the mere presence of the word "harvesting" does not equate to the teaching or suggestion of "(e) assigning a harvesting time for each end user based on each end user's predicted login time." What is "harvested" in Brandt are billing detail records (and possibly other billing or telephone service information) for customers of a telephone company. Brandt does not describe harvesting this information "based on each user's predicted login time" or anything related. Indeed, there is no motivation or suggestion in Brandt for harvesting billing detail records based on a customer's login time. Large commercial or business telephone customers, who are the type of customers mostly likely to be interested in complex reports of the type with which Brandt is concerned, require information to be available at all times, and when an employee of the customer company happens to log in to a computer system is likely of little significance. In contrast, in the type of environments in which Applicant's invention is used, users can be expected to log on to or otherwise access a computing

device from time to time to check their accounts or otherwise view their information, and it is at that time that such users will want to see any updates reflected in the information. They will log on, and after reviewing the information, they will log off or otherwise exit the computing device system. Neither Takagi nor Brandt mention login as having any relationship to when any information is to be harvested.

The Office Action goes on to further quote Brandt: "The primary object services include: graphical user interface (GUI); communications; printing; user identity, authentication, and entitlements; data import and export; logging and statistics; error handling; and messaging services." (col. 7, lines 30-34.) Applicants fail to see how "object services" are relevant to step (e) of the claimed method. Applicants believe that the term "object services" refers to the relatively low-level functions or services that are provided by distributed object-oriented software systems. (See, e.g., *The Essential Distributed Objects Survival Guide* (John Wiley & Sons, 1996)). The quoted section of Brandt is believed to be merely describing some of the object services that the software may include or use. These services do not by themselves relate to information harvesting or to predicted login times or to anything else in step (e) of claim 1.

In view of the foregoing, Applicants respectfully submit that neither Takagi nor Brandt discloses or suggests any of steps (a)-(e) of claim 1. Therefore, apart from whether it would have been obvious to a person of ordinary skill in the art to do so, combining the teachings of these references *could not* have resulted in Applicants invention as claimed in claim 1. With regard to independent claims 10 and 13, these claims relate to essentially the same subject matter as claim 1 but recite the invention from the perspective of a "system" and "computer-readable

storage device," respectively. Therefore, Applicant traverses the rejection of these claims for the same reasons discussed above with regard to claim 1. Applicants further traverse the rejections of the remaining claims that depend from claims 1, 10 and 13 (i.e., claims 2-9, 11, 12, 14 and 15) for at least the same reasons, and additionally for the following reasons.

With regard to claim 2, as discussed above, Applicants respectfully submit that nothing in Brandt or Takagi relates to determining a set of users, as recited in step (b) of claim 1. The Examiner cites col. 3, lines 48-53 of Brandt, but these lines relate to advantages of "the operational database system infrastructure" and have nothing to do with "selecting end users configured to receive information from the selected information provider" and "eliminating end users not configured to receive information subject to update at the determined update time."

Similarly, with regard to both claims 2 and 3, nothing in Brandt or Takagi discloses "eliminating" any such end users from inclusion in the set as part of this step. The Examiner cites col. 25, lines 1-27, but these lines relate to SQL database queries and sorting a request table that bears no relation to a list or set of end users who are to receive updated information from information providers.

With regard to claim 4, nothing in either Brandt or Takagi discloses "sorting" the "set of end users," and nothing in Brandt or Takagi relates to a "login time," as discussed above with regard to step (d) of claim 1. Therefore, nothing discloses sorting in ascending order of predicted login time.

With regard to claim 5, nothing in Brandt or Takagi relates to anything that could reasonably be considered a "login time profile" or a "confidence threshold" and, moreover, as discussed above with regard to claim 1, nothing in Brandt relates to "generating a predicted login time." The Examiner cites col. 15, lines 59-67 and col. 16, lines 1-8 of Takagi for the proposition that determining whether a login time profile meets a predetermined confidence threshold is known in the art, but Applicants submit that this section of Takagi relates to assessing the user's need for information based upon his "habits" or activities. Nothing in this section or any other section of Takagi relates to a *login time*.

With regard to claims 6, 7, 12 and 15, nothing in either Takagi or Brandt discloses "shifting each end user's predicted login time" because, as discussed above, nothing in these references relates in any way to predicting a login time or using a login time as a basis for scheduling the harvesting of information. The Examiner cites col. 13, lines 5-20 of Takagi, but these lines relate to how a user's delay in his normal activity schedule impacts the caching of information. It has nothing to do with a login time, predicting a login time, or shifting a predicted login time.

With regard to claim 8, nothing in either Takagi or Brandt discloses anything having to do with a polynomial function or performing an integral matching algorithm. With regard to polynomials, the Examiner cites col. 19, lines 25-42 of Brandt, but these lines talk about "continuously running FTP, NRL and ARDA processes" that "take appropriate actions in accordance with the request status table entries." No mention is made of polynomials, functions, integrals or any other such mathematical concepts. Similarly, with regard to integral matching,

the Examiner cites col. 27, lines 5-64 of Takagi, but this section relates to reports that are generated and has nothing to do with concepts such as integral matching.

Applicants submit that claims 1-15 could not have been obvious to a person of ordinary skill in the art in view of Takagi and Brandt because none of the limitations set forth in the claims are taught or suggested in either Takagi or Brandt. Applicant therefore requests reconsideration and withdrawal of the rejection of claims 1-15 under 35 U.S.C. § 103(a). Takagi relates to a data-caching system for mobile computing devices that predicts when a user will require information and caches the information in the device before that time. The prediction is based upon such things as typical activity schedules of a user. Importantly, it is *not* based upon a login time or the time at which information is to be updated by information providers. Takagi does not disclose or suggest anything about a user's *login time* or anything about *updates* to information stored by a user's information providers. Brandt similarly does not address such concepts and therefore does not disclose or suggest anything about scheduling an information harvesting time based on such concepts.

In view of the foregoing, Applicants respectfully request further examination and allowance of the application. If the Examiner believes discussion of any issue may expedite examination, the Examiner is respectfully encouraged to contact Applicants' undersigned representative.

Respectfully submitted,

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